

camouflage for the leaves on which they feed. They become green in colour when they feed on green leaves. They grow to about 1.5 cm to 2 cm in length and then settle down for pupation. They emerge after about 7 days from the date of pupation.

Omnivorous feeding habit of the herbivore larvae has been recorded earlier (Bell 1919). However, there is no information on the cannibalistic behaviour of the Monkey Puzzle larvae. This strange behaviour was observed in the larvae reared in captivity.

Three larvae were reared in a plastic container in which ample leaves of *Ixora* spp. were provided as food. On completion of the last instar, one larva anchored itself for pupation on the wall of the plastic container. After sometime, I observed the other two larvae feeding (one on either side) on the larva which was pupating. They devoured the larva within an hour and a half and resumed feeding on the leaves of *Ixora* spp. After about two and a half hours both the larvae anchored themselves on the wall of the plastic container for pupation.

Cannibalism in butterfly larvae is not uncommon. Chaturvedi and Haribal (1991) have reported cannibalism in the Common Tiger *Danaus genutia* and the Blue Tiger *Tirumala limniaceae* on *Marsdenia tenacissima*. De Niceville (1890) has reported cannibalism in Lycaenids.

Though cannibalism is seen in Lycaenids, it had not been specifically recorded, so far, for *Rathinda amor*.

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#### REFERENCES

BELL, T.R. (1919): Common Butterflies of Plains of India. *J. Bombay Nat. Hist. Soc.* 26 (3): 758-759.  
CHATURVEDI, N. & M. HARIBAL (1991): Cannibalism in Butterfly larvae.

*J. Bombay Nat. Hist. Soc.* 89(2): 261-262.  
DE NICEVILLE, LIONEL (1890): Butterflies of India, Burma and Ceylon. Vol. III Calcutta Central Press Co. 56 pp.

### 19. MUKURTHI NATIONAL PARK: A MIGRATORY ROUTE FOR BUTTERFLIES

Butterfly migration often takes the form of persistent flight in one direction over long distances in large numbers and such flights are clearly different from local flights around the breeding area, which are associated with feeding, mating and egg laying. Sixty of the world's 250 migratory butterfly species are reported from India. These species belong to the families Pieridae, Danaidae, Nymphalidae and to a lesser extent, the Lycaenidae and Hesperidae (Gunathilagaraj *et al.* 1998).

On November 25, 2002 during my fieldwork in Bangitabal valley of the Mukurthi National Park in the Nilgiris district of Tamil Nadu, I saw thousands of butterflies, flying to the southwest of the valley towards the Silent Valley National Park of Kerala. I observed this process of migration from around 0830 hrs till 1700 hrs.

In the migratory swarm, the Blue Tiger (*Tirumala limniace*) was the predominant species followed by the Danaid Eggfly (*Hypolimnas misippus*) and the Great Eggfly (*Hypolimnas bolina*) as was evident from the number of males in the swarms (since the Danaid Eggfly mimics the Plain Tiger and female of the Great Eggfly mimics the Common Crow *Euploea core*). Other species recorded were the Common Crow, the Tailed Jay (*Graphium agamemnon*), the Common

Jezebel (*Delias eucharis*), the Common Blue Bottle (*Graphium sarpedon*), the Plain Tiger (*Danaus chrysippus*) and three unidentified species.

The migration was observed again on the next day in the same direction. Most of the butterflies flew very close c. 2-5 m above the grassland. Interestingly, many insectivorous birds such as Pied Bushchat (*Saxicola caprata*), Nilgiri Pipit (*Anthus nilghiriensis*), Tickell's Warbler (*Phylloscopus affinis*), Greenish Leaf-Warbler (*Phylloscopus trochiloides*) and Oriental White-eye (*Zosterops palpebrosus*) were trying to capture some of these fluttering butterflies. These birds were perched on Rhododendron (*Rhododendron nilgircum*) and took off often to capture the ones flying close by. Occasionally, some butterflies rested on the vegetation. The butterflies flew in a scattered manner and in mixed composition. Large numbers migrated during the bright hours of the day with good sunshine, the numbers dropped considerably in the evening. These swarms generally migrated along the valley rather than the ridges.

I presume that Mukurthi National Park is a major migratory route for these species. It is also the least disturbed region of the Nilgiri hills without any anthropogenic pressure and appears to be quite safe.

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This observation was made during my fieldwork for the project Ecology of Shola grassland Project. I thank the US Fish & Wildlife Service for funding and Tamil Nadu Forest Department for permission.

## REFERENCE

GUNATHILAGARAJ K., T.N.A. PERUMAL, K. JAYARAM & M.G. KUMAR (1998): Some South Indian Butterflies. Nilgiri Wildlife and Environment Association Udhagamandalam. Mytec Process Pvt. Ltd., Bangalore, India.

## 20. FIRST RECORD OF *SCATELLA STAGNALIS* (FALLÉN) (EPHYDRIDAE: DIPTERA), FROM INDIA

*Scatella stagnalis* (Fallén) is a schizophoran, acalyptate dipteran belonging to the superfamily Drosophiloidea. The genus *Scatella* Robineau-Desvoidy, reportedly has 3 species from the Oriental region, namely *Scatella bullacosta* Cresson (Taiwan), *Scatella scantipuli* Schiner (St. Paul's Island) and *Scatella stagnalis* (Fallén), which is more widespread in distribution, being recorded from four zoogeographical areas, namely Oriental (Taiwan) Holarctic, Ethiopian and Neotropical regions. The diagnostic features of the species are: black body with pruinose face; dorsum of abdomen shining dark brown; wings usually with 2 or more spots in  $R_{2+3}$ .

*Scatella stagnalis* was first reported by Fallén from its type locality, Sweden; the only report from the Oriental region is from Taiwan (former Formosa).

While studying the Ephydrid collection of the National Zoological Collection at the Headquarters of the Zoological Survey of India, Kolkata, we came across a female specimen of this species, collected by A.P. Kapoor on 21.xii.1956, from Eden Gardens, Kolkata, West Bengal (22° 34' N; 88° 27' E). This species was diagnosed by W. Wirth and was not published anywhere. Moreover, no reports of this species from any other state or region of India or from the Indian subcontinent were found.

During a recent survey in the Nepli Reserve Forest and Sukhna Wildlife Sanctuary of Chandigarh (33° 44' N; 76° 52' E), one of us (P. Parui) collected 15 specimens of *Scatella stagnalis* (Fallén). The flies were collected from the barren bed of a water canal, which was then dry, but usually serves as a forest water outlet. The flies were found resting on the bare canal bed.

The present communication is of importance as it is the first record of this species from two different zones (north and east) of India.

***Scatella stagnalis* (Fallén)**

1813. *Ephydra stagnalis* Fallén, K. *Svenska vet. Akad. Handl.*, (3): 248, type-loc: Sweden

**Material examined:** 1 ♀, Eden Gardens, Kolkata, West Bengal, 21.xii.1956, coll. A.P. Kapoor; 15 exs; Nepli Reserve Forest, Chandigarh, 6.ii.2002, coll. P. Parui.

**Distribution:** INDIA: Chandigarh; West Bengal.

**Elsewhere:** Taiwan; Holarctic; Ethiopian; Neotropical.

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## 21. ADDITION TO THE MANTID FAUNA OF SANJAY GANDHI NATIONAL PARK, MUMBAI AND SOME NEW RECORDS FROM MAHARASHTRA

A note on mantid fauna of Sanjay Gandhi National Park (SGNP), Mumbai, with some new records for Maharashtra state was published by Chaturvedi and Hegde (2000). Recently, Ghate and Ranade (2002) reported 44 species of mantids from Maharashtra. During further observations

and studies on the mantid fauna of SGNP and other parts of Maharashtra, we found seven new records not reported by Ghate and Ranade (2002); these include specimens from the earlier collection of the Bombay Natural History Society (BNHS) by T.K. Mukherjee.